

providing a layer of a plurality of ceramic filter units, each of the ceramic filter units including a body having a substantially annular outer peripheral shape, a central opening extending through the body, and at least three openings also extending through the body and positioned between the central opening and an outer periphery of the body so that a combination of the central opening and the at least three openings define a plurality of fluid flow passageways extending through each of the plurality of ceramic filter units;

contacting an organic-based feed stream with the layer of the plurality of ceramic filter units; and

subdividing the organic-based feed stream into a plurality of smaller fluid streams by passing the organic-based feed stream through the plurality of fluid flow passageways prior to the organic-based feed stream contacting a catalyst bed in the chemical reactor.

60. A method as defined in claim 59, wherein at least one of the at least three openings comprise an ellipse.
61. A method as defined in claim 59, further including the steps of: removing contaminants from a contaminated organic-based feed stream; and providing a decontaminated and uniformly spread organic-based feed stream to a catalyst bed for further processing in the chemical reactor.
62. A method as defined in claim 59, including the step of packing the ceramic filter units into the chemical reactor with a packing factor of about 200 to 500 ft<sup>2</sup>/ft<sup>3</sup>.
63. A method as defined in claim 59, including the step of packing the ceramic filter units in graduated layers into the chemical reactor with each layer having a different packing factor of about 200 to 500 ft<sup>2</sup>/ft<sup>3</sup>.
64. A method as defined in claim 59, wherein the body of at least one of the plurality of ceramic filter units has a fluted outer peripheral surface.

65. A method as defined in claim 59, wherein the outer peripheral includes a plurality of recessed notches extending inwardly from the outer periphery towards the medial portion of the ceramic filter unit.

66. A method as defined in claim 59, wherein the at least three openings substantially surround the central opening between the central opening and the outer periphery to thereby define a ring around the central opening.

67. A method of fluid distribution in a chemical reactor comprising the steps of:

providing a layer of a plurality of ceramic filter units, each of the ceramic filter units including a body having a substantially polygonal outer peripheral shape, a central opening extending through the body, and at least three openings also extending through the body and positioned between the central opening and an outer periphery of the body so that a combination of the central opening and the at least three openings define a plurality of fluid flow passageways extending through each of the plurality of ceramic filter units;

contacting an organic-based feed stream with the layer of the plurality of ceramic filter units; and

subdividing the organic-based feed stream into a plurality of smaller fluid streams by passing the organic-based feed stream through the plurality of fluid flow passageways prior to the organic-based feed stream contacting a catalyst bed in the chemical reactor.

68. A method as defined in claim 67, wherein at least one of the at least three openings comprise an ellipse.

69. A method as defined in claim 67, further including the steps of: removing contaminants from a contaminated organic-based feed stream; and providing a decontaminated and uniformly spread organic-based feed stream to a catalyst bed for further processing in the chemical reactor.

70. A method as defined in claim 67, wherein the outer peripheral includes a plurality of notches recessed from the outer peripheral towards the medial portion of the ceramic filter unit.
71. A method as defined in claim 67, including a step of utilizing ceramic filter units wherein the outer periphery has a polygonal shape with a length of about  $\frac{1}{8}$  inches to about 3 inches.
72. A method as defined in claim 67, wherein the body of at least one of the plurality of ceramic filter units has a substantially polygonal shape selected from the group consisting of triangles, quadrilaterals, squares, rectangles, pentagons, hexagons, heptagons, and octagons.
73. A method as defined in claim 67, wherein the body of at least one of the plurality of ceramic filter units has a square shape with a width of about  $\frac{1}{4}$  inches to about 3 inches.
74. A method as defined in claim 67, wherein the body of at least one of the plurality of ceramic filter units has a rectangular shape with a length of about  $\frac{1}{4}$  inches to about 3 inches and a width of about  $\frac{1}{4}$  inches to about 3 inches.
75. A method as defined in claim 67, wherein the body of at least one of the plurality of ceramic filter units has a closed-planed shape with a width of about  $\frac{1}{4}$  inches to about 3 inches.
76. A method as defined in claim 67, wherein the outer peripheral includes a plurality of recessed notches extending inwardly from the outer periphery towards the medial portion of the ceramic filter unit.
77. A method as defined in claim 67, wherein the at least three openings substantially surround the central opening between the central opening and the outer periphery to thereby define a ring around the central opening.
78. A method of fluid distribution in a chemical reactor comprising the steps of: